Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the Federal Biobased Product Preferred Procurement Program (FB4P). This summary reflects data available as of July 25, 2006.

Title: Composite Panels

Description: Factory-engineered panels used as dividers, partitions, exterior cladding, and other construction applications.

Manufacturers Identified: 26 manufacturers producing Composite Panels have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies producing Composite Panels:

- Mississippi Forestry Association
- US Forest Service/USDA Forest Lab
- Biobased Manufacturers Association
- Composite Panel Association
- Composite Wood Council
- American Fiberboard Association

Commercially Available Products Identified: Of the manufacturers identified, 51 Composite Panels are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 23 Composite Panels.

Industry Performance Standards: Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- American Society for Testing and Materials #C73-05 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)
- American Society for Testing and Materials #C473-03 Standard Test Methods for Physical Testing of Gypsum Panel Products
- American Society for Testing and Materials #D1037-99 Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials
- American Society for Testing and Materials #D3273-00 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
- American Society for Testing and Materials #D4060-01 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser

- American Society for Testing and Materials #E72-05 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- American Society for Testing and Materials #E84-05 Standard Test Method for Surface Burning Characteristics of Building Materials
- American Society for Testing and Materials #E90-04 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- American Society for Testing and Materials #E119-00a Standard Test Methods for Fire Tests of Building Construction and Materials
- American Society for Testing and Materials #E413-04 Classification for Rating Sound Insulation
- ***Non-ASTM standards could be added

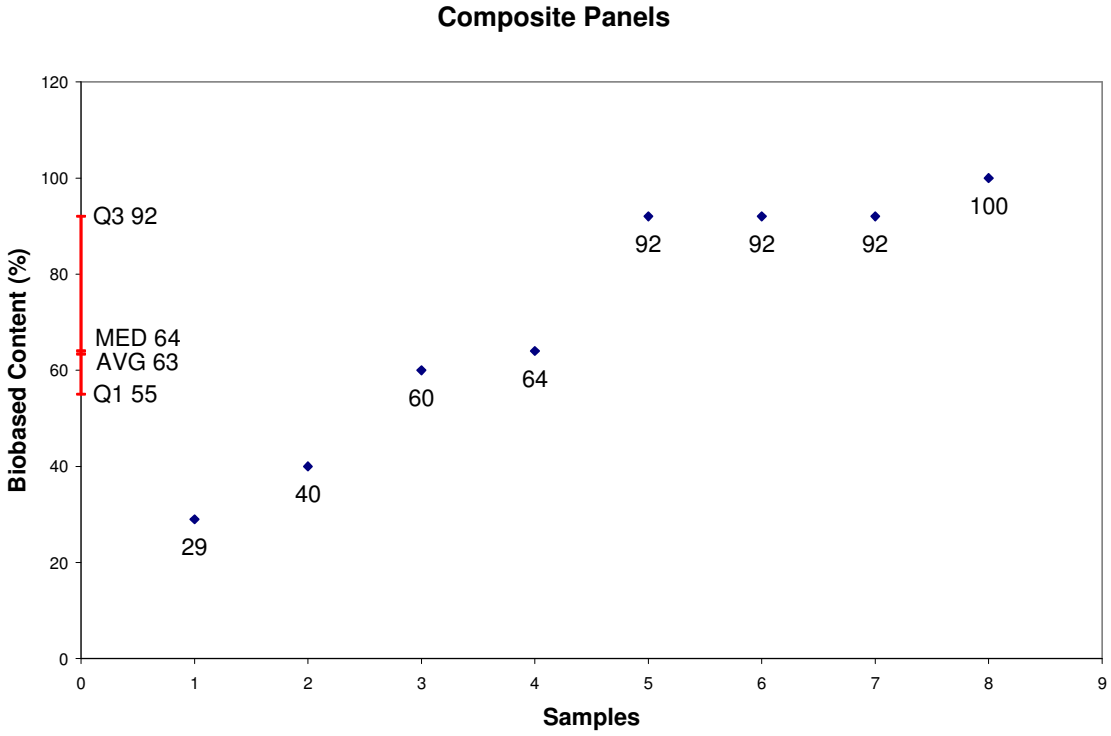
Samples Tested for Biobased Content: 8 samples of Composite Panels have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

Biobased Content Data: Results from biobased content testing of Composite Panels indicate a range of content percentages from 29% minimum to 100% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 2 Composite Panels have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Composite Panels range from $2.37 minimum to $4.96 maximum per usage unit. The environmental scores range from 0.0085 minimum to 0.0113 maximum. A detailed summary of the BEES results is included as Appendix B.

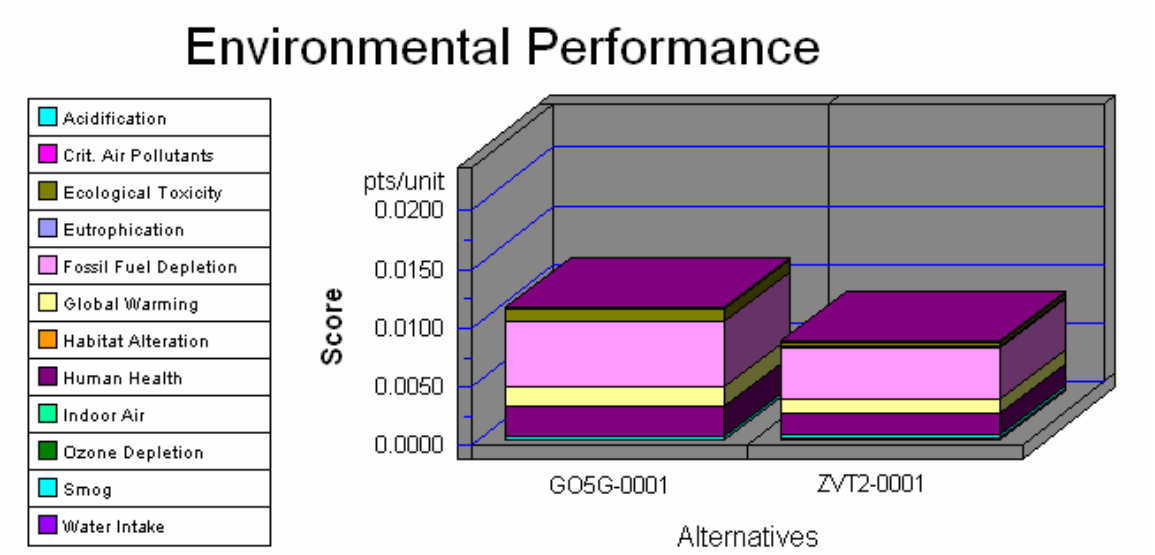
Appendix A - Biobased Content Data



	Manufacturers Identified	Products Identified	C14	BEES
1	GO5G	GO5G-0002	29	
2	FV8Y	FV8Y-0002	40	
3	R49D	R49D-0001	60	
4	R49D	R49D-0002	64	
5	ZVT2	ZVT2-0001	92	yes
6	ZVT2	ZVT2-0003	92	
7	ZVT2	ZVT2-0002	92	
8	SZWN	SZWN-0001	100	
9	GO5G	GO5G-0001		yes

Appendix B - BEES Analysis Results

Units: 1 Square Foot of Partition over 50 Years

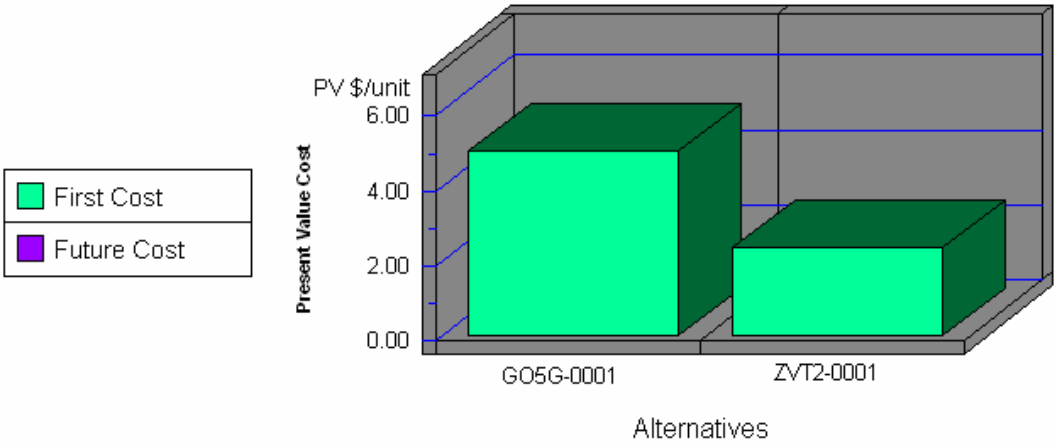


Note: Lower values are better

Category	GO5G-0001	ZVT2-0001
Acidification--5%	0.0000	0.0000
Crit. Air Pollutants--6%	0.0001	0.0001
Ecolog. Toxicity--11%	0.0010	0.0004
Eutrophication--5%	0.0001	0.0001
Fossil Fuel Depl.--5%	0.0055	0.0044
Global Warming--16%	0.0016	0.0012
Habitat Alteration--16%	0.0000	0.0000
Human Health--11%	0.0026	0.0017
Indoor Air--11%	0.0000	0.0000
Ozone Depletion--5%	0.0000	0.0000
Smog--6%	0.0004	0.0004
Water Intake--3%	0.0000	0.0002
Sum	0.0113	0.0085

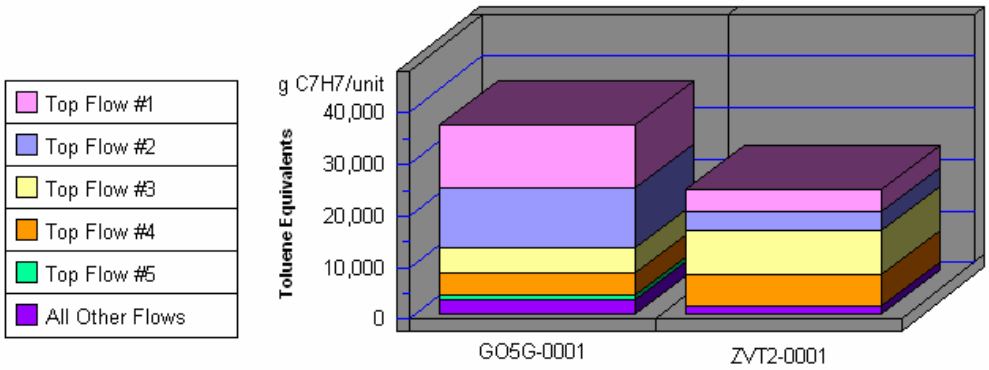
Appendix B (continued)

Economic Performance



Category	GO5G-0001	ZVT2-0001
First Cost	4.96	2.37
Future Cost-- 3.9%	0.00	0.00
Sum	4.96	2.37

Human Health by Sorted Flows*



Note: Lower values are better

Category	GO5G-0001	ZVT2-0001
Cancer--(a) Dioxins (unspecifie	12,291.94	4,173.90
Cancer--(a) Arsenic (As)	11,681.43	3,637.33
Cancer--(w) Phenol (C6H5OH)	4,866.93	8,659.44
Cancer--(w) Arsenic (As3+, As5+	4,268.19	5,954.81
Noncancer--(a) Mercury (Hg)	1,028.23	248.39
All Others	2,777.98	1,527.42
Sum	36,914.70	24,201.30